AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions of the claims.

1. (Currently Amended) A bias sputtering film forming process for forming a thin film by applying both voltages of a cathode voltage and a substrate bias voltage, wherein

a thin film is formed on a substrate whereon an irregularity is formed in the state wherein only the cathode voltage ~~out of said both voltages~~ is applied, and

sputtering film forming is performed while ~~continuously~~progressively varying said substrate bias voltage so that the thickness of said thin film formed on ~~the~~ internal surfaces ~~on the sidewalls and on the bottoms~~ of said irregularity is substantially uniform, wherein said progressively varying substrate bias voltage corresponds to ~~a~~ stored substrate bias voltage ~~value~~values in a database stored in a control system.

2. (Currently Amended) The bias sputtering film forming process according to claim 1, wherein said cathode voltage is also varied, ~~in~~ and said bias sputtering film forming is performed while varying said substrate bias voltage.

3. (Original) The bias sputtering film forming process according to claim 1 or 2, wherein sputtering particles coming from a target enter substantially vertically in said substrate.

4. (Original) The bias sputtering film forming process according to claim 1 or 2, wherein said thin film is used as a barrier layer, or a seed layer for electrolytic plating.

5. (Currently Amended) A bias sputtering film forming apparatus comprising an AC power source or a DC power source of variable output against a substrate ~~electrodes~~ electrode and a database stored in a control system, wherein said control system

~~makes the~~ sets a cathode voltage ~~set~~ to a predetermined ~~voltage previously~~ value,

stores ~~the~~ a substrate bias voltage value in the database when the substrate electrode is apart from ~~the~~ a target by a predetermined distance and the thickness distribution of thin films on ~~each of said surfaces~~ a surface of the substrate electrode corresponding to said substrate bias voltage value as reference data, and

controls the output of said power source such that ~~it~~ the output is ~~continuously~~progressively varied based on bias voltage functions produced by selecting ~~the~~ a substrate bias voltage value from the database, ~~that makes~~ which renders said film thickness substantially uniform ~~from said reference data~~ when ~~each of said surfaces~~ the surface is formed.

6. (Currently Amended) The bias sputtering film forming apparatus according to claim 5, in which said apparatus further comprises a power source of

variable output against said cathode, wherein said control system also varies the cathode voltage by controlling the output of said cathode power source, ~~in~~ and said bias sputtering film forming is performed by controlling the output of said substrate power source based on said bias voltage functions.